CLASSIFICATION OF SUBJECT MATTER PC 7 H01H25/04 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) H01H G06F IPC 7 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the International search (name of data base and, where practical, search terms used) EPO-Internal, PAJ C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with Indication, where appropriate, of the relevant passages Relevant to claim No. Category 9 US 6 313 826 B1 (SCHRUM ALLAN E ET AL) X 6 November 2001 (2001-11-06) 4-17 the whole document 19-26 US 6 313 731 B1 (VANCE SCOTT LADELL) X 6 November 2001 (2001-11-06) 2-17, the whole document Y 19-26 EP 0 640 937 A (HOSIDEN CORP) 1 X 1 March 1995 (1995-03-01) 2-17, the whole document Y 19-26 Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: "T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the A document defining the general state of the art which is not considered to be of particular relevance invention *E* earlier document but published on or after the International filing date "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another diation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-O document referring to an oral disclosure, use, exhibition or ments, such combination being obvious to a person skilled in the art. document published prior to the international filing date but later than the priority date claimed *&* document member of the same patent family Date of the actual completion of the International search Date of mailing of the International search report 12/11/2003 3 November 2003 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016

Desmet, W



Internal Application No PCT/LT 03/06517

| | | PCT/ET 03 | 3/0651/ |
|------------|---|-----------|-----------------------|
| Calegory ° | ation) DOCUMENTS CONSIDERED TO BE RELEVANT | | |
| alegory • | Citation of document, with indication,where appropriate, of the relevant passages | | Relevant to claim No. |
| X | US 5 670 955 A (HANSON MARK T ET AL) 23 September 1997 (1997-09-23) | | 1 |
| Y | the whole document . | | 2-17, 19-26 |
| X | PATENT ABSTRACTS OF JAPAN vol. 1996, no. 09, 30 September 1996 (1996-09-30) & JP 08 124461 A (MATSUSHITA ELECTRIC IND | | 1 |
| r | CO LTD), 17 May 1996 (1996-05-17) abstract | | 7 |
| x | US 2002/009193 A1 (DEGUCHI MANABU) 24 January 2002 (2002-01-24) | | 1 |
| Y | page 4, column 1, paragraph 1 — paragraph 4; figures 8A,,8B | | 12 |
| x | EP 0 540 147 A (LIN WALLACE E ;LIN EDWARD D (US)) 5 May 1993 (1993-05-05) | | 1 |
| Y | column 2, line 21 -column 3, line 9; figures column 10, line 10 - line 16 | | 16 |
| x | DE 34 26 922 A (GRUNDIG EMV) 23 January 1986 (1986-01-23) | | 1 |
| Y | the whole document | | 19–25 |
| Y | US 5 815 139 A (MIZUKI TAKAYUKI ET AL) 29 September 1998 (1998-09-29) cited in the application claim 1; figures | ·. · | 14 |
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INTENTIONAL SEARCH REPORT In thation on patent family members

Internation I Application No
PCT/E 03/06517

| | atent document I in search report | | Publication date | - | Patent family member(s) | | Publication date |
|----------|--------------------------------------|----|---------------------|----------|----------------------------|-------|------------------|
| US | 6313826 B1 | | 06-11-2001 | AT | 240545 | T | 15-05-2003 |
| | | | | AU | 9669198 | | 23-04-1999 |
| | | | | DE | 69814655 | | 18-06-2003 |
| | | | | EP | 1019792 | | 19-07-2000 |
| | | | | ĴΡ | 2001518655 | – | 16-10-2001 |
| | | | | TW | 521204 | | 21-02-2003 |
| | | | | WO | 9917180 | | 08-04-1999 |
| | | | | ÜS | 6563488 | | 13-05-2003 |
| | 6313731 | | 06-11-2001 | | | | |
| | | B1 | | US | 2002050919 | | 02-05-2002 |
| ΕP | 0640937 | Α | 01-03-1995 | JP | 3422335 | | 30-06-2003 |
| | | | • | JP | 7064714 | | 10-03-1995 |
| | | | | JP | 8006712 | | 12-01-1996 |
| | | | | JP | 8006713 | Α | 12-01-1996 |
| | | | | JP | 8006714 | Α | 12-01-1996 |
| | | | | JP | 8006715 | | 12-01-1996 |
| | | | | ĴΡ | 8006716 | | 12-01-1996 |
| | | | | ĴΡ | 3362507 | | 07-01-2003 |
| | | | | JP | 8006717 | | 12-01-1996 |
| | | | | DE | 69400854 | | 12-12-1996 |
| | | | | DE | 69400854 | | 03-04-1997 |
| | | | | EP | 0640937 | | 01-03-1995 |
| | | | | | | | |
| | | | | KR | 132132 | | 24-04-1998 |
| | | | | US | 5555004 | A | 10-09-1996 |
| US —— | 5670955 | Α | 23-09-1997 | JP | 8305488 | A | 22-11-1996 |
| JP | 08124461 | Α | 17-05-1996 | NONE | | | |
| US | 2002009193 | A1 | 24-01-2002 | JP | 3123490 | B2 | 09-01-2001 |
| | | | • | JP | 11150591 | Α | 02-06-1999 |
| | | | | AU | 748845 | B2 | 13-06-2002 |
| | | | | AU | 9323198 | | 10-06-1999 |
| | | | | CN | 1222819 | | 14-07-1999 |
| | | | | ĒΡ | 0917330 | | 19-05-1999 |
| | | | | ŪS | 2001040964 | | 15-11-2001 |
| EP | 0540147 | Α | 05-05-1993 | US | 5528235 | A | 18-06-1996 |
| | | | | CA | 2077184 | | 04-03-1993 |
| | • | | | DE | 69229494 | | 05-08-1999 |
| | | | | DE | 69229494 | | 28-10-1999 |
| | | | | EP | 0540147 | | 05-05-1993 |
| | | | | JP | 3314276 | | 12-08-2002 |
| | | | | | | | |
| | | | | JP MV | 5265618 | | 15-10-1993 |
| | | | | MX | 9205058 | | 01-03-1993 |
| DE | 3426922 | Α | 23-01-1986 | DE | 3407573 | | 05-09-1985 |
| | | | | DE | 3426922 | | 23-01-1986 |
| | | | | DE | 3427549 | | 06-02-1986 |
| | | | | DE | 3478259 | | 22-06-1989 |
| | | | | EP | 0156998 | | 09-10-198 |
| US | 5815139 | A | 29-09-1998 | JP | 3396701 | | 14-04-2003 |
| | | | | JP | 9297652 | Δ | 18-11-1997 |